

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: July 8, 2005, 15:23:16 ; Search time 39 Seconds
(without alignments)
143.092 Million cell updates/sec

Title: US-10-617-978-20

Perfect score: 343

Sequence: 1 ADVPGNYPLDSSDNTYLCA.....GYCAFQWCFLKDNVKV 58

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 283416 seqs, 96216763 residues

Total number of hits satisfying chosen parameters: 283416

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database :

PIR 79:*

1: pir1:*

2: pir2:*

3: pir3:*

4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Match	Length	ID	Description
1	113.5	33.1	65	1 NTSR3C	neurotoxin 3 - bark
2	111	32.4	87	2 JN0669	Na+-channel-blocki
3	110	32.1	86	2 A27406	toxin CsiII - Mexi
4	109	31.8	66	2 A55869	crustacean-specifi
5	109	31.8	87	2 JN0670	Na+-channel-blocki
6	108	31.5	84	1 NTSR2N	Na+-channel-blocki
7	107	31.2	66	2 A31188	neurotoxin 1 - sco
8	107	31.2	87	2 JN0672	neurotoxin 4 precu
9	102	29.7	66	2 S23080	toxin 3 - scorpion
10	102	29.7	86	2 JN0671	Na+-channel-blocki
11	101	29.4	64	1 NTSR1C	neurotoxin I - bar
12	101	29.4	64	2 S32789	toxin II-14 - scor
13	100	29.2	66	1 NTSR2C	neurotoxin 2 - bar
14	95.5	27.8	65	1 NTSR1C	neurotoxin 1 - bar
15	92	26.8	61	2 B34123	depressant insect
16	89	25.9	66	1 NTSR4E	neurotoxin M14 - l
17	88	25.7	85	2 A61616	depressant insect
18	86	25.1	65	1 NTSR4L	neurotoxin IV - Egi
19	85	24.8	64	1 NTSR5L	neurotoxin V - Egi
20	85	24.8	85	2 A40472	depressant insect
21	84	24.5	64	1 NTSR5M	neurotoxin V - sco
22	84	24.5	65	2 A59222	neurotoxin X - sco
23	83.5	24.3	80	1 NTSR4T	neurotoxin Tsiv pr
24	83	24.2	59	2 C23727	neurotoxin V-5 - b
25	83	24.2	66	2 B23727	neurotoxin V-4 - b
26	79.5	23.2	62	2 S62863	toxin IV-5 - Tityu
27	79.5	23.2	65	1 NTSR1B	neurotoxin I - sco
28	78.5	22.9	84	1 NTSR3A	neurotoxin III pre
29	78	22.7	61	2 B59352	depressant insect-

30	78	22.7	65	1 NTSREB	neurotoxin XI - sc
31	77.5	22.6	63	2 A23727	neurotoxin V - bar
32	77	22.4	62	2 D59352	depressant insect-
33	77	22.4	84	2 JE0143	anti-mammals neuro
34	75.5	22.0	64	2 JC1321	neurotoxin IV - Sa
35	75	21.9	64	2 A35940	neurotoxin alpha-I
36	75	21.9	70	2 A55824	drosomycin precurs
37	75	21.9	85	2 A39306	alpha insect toxin
38	74.5	21.7	50	2 S02174	anti-epilepsy prot
39	74.5	21.7	65	1 NTSR0E	neurotoxin M10 - l
40	74	21.6	61	2 C59352	depressant insect-
41	74	21.6	64	2 S60352	alpha-toxin - Braz
42	71	20.7	70	1 S08267	toxin 1 - scorpion
43	70.5	20.6	548	2 T25424	hypothetical prote
44	70	20.4	61	2 A59006	excitatory insect
45	70	20.4	61	2 A59352	depressant insect-

ALIGNMENTS

RESULT 1

NTSR3C

neurotoxin 3 - bark scorpion

C:Species: Centruroides sculpturatus (bark scorpion)

C>Date: 15-Oct-1982 #sequence revision 15-Oct-1982 #text_change 23-Aug-1996

C:Accession: A90058; A94470; A01754

R:Babin, D.R.; Watt, D.D.; Goos, S.M.; Mlejnek, R.V.

Arch. Biochem. Biophys. 184, 694-706, 1974

A:Title: Amino acid sequences of neurotoxic protein variants from the venom of Centruroides

A:Reference number: A90058; MUID:75163395; PMID:4460885

A:Accession: A90058

A:Molecule type: protein

A:Residues: 1-24, NTC, 28-63, 'CS' <BAB>

R:Shown, A.; Mole, J.

unpublished results, cited by Fontecilla-Camps, J.C., et al., Toxicon 20, 1-7, 1982

A:Reference number: A94470

A:Accession: A94470

A:Molecule type: protein

A:Residues: 1-65 <BHO>

R:Fontecilla-Camps, J.C.; Almassy, R.J.; Suddath, F.L.; Buggs, C.E.

Toxicon 20, 1-7, 1982

A:Title: The three-dimensional structure of scorpion neurotoxins.

A:Reference number: A94314; MUID:82200153; PMID:7080025

A:Contents: annotation: X-ray crystallography 1.8 angstroms; disulfide bonds

A:Note: X-ray crystallographic studies were based on the revised sequence shown

C:Superfamily: scorpion neurotoxin

C:Keywords: neurotoxin; venom

F:12-65,16-41,25-46,29-48/Disulfide bonds: #status experimental

Query Match 33.1%; Score 113.5; DB 1; Length 65;

Best Local Similarity 46.0%; Pred. No. 1.8e-05;

Matches 23; Conservative 4; Mismatches 20; Indels 3; Gaps 2;

QY 7 YPLDSSDN-TYLCAPLGNDPCIKIC--QKHGVVDYGYCYAFQWCFLKDN 53

Db 4 YLVKSDGCKYCKLKGNEGCDTECKAKNQSGSYGYAFACWCEGLPE 53

RESULT 2

JN0669

Na+-channel-blocki

C:Species: Centruroides noxius

C>Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 09-Jul-2004

C:Accession: JN0669

R:Becceril, B.; Vazquez, A.; Garcia, C.; Corona, M.; Bolivar, F.; Possani, L.D.

Gene 128, 165-171, 1993

A:Title: Cloning and characterization of cDNAs that code for Na+-channel-blocking toxin:

A:Reference number: JN0669; MUID:93292983; PMID:8390386

A:Accession: JN0669

A:Molecule type: mRNA

A:Residues: 1-87 <BEC>

A:Cross-references: UNIPROT:P45663; GB:L05060; NID:g304566; PIDN:AAA28285.1; PID:g30456

A:Experimental source: venom gland
C:Superfamily: scorpion neurotoxin
C:Keywords: toxin
F:1-19/Domain: signal sequence #status predicted <SIG>
F:20-87/Product: Na+-channel-blocking toxin (clone cngtII) #status predicted <MAT>

Query Match 32.4%; Score 111; DB 2; Length 87;
Best Local Similarity 52.5%; Pred. NO. 4.2e-05;
Matches 21; Conservative 2; Mismatches 15; Indels 2; Gaps 1;

QY 16 YLCAPLGNDPDCIKIC--QKHGVDYGYCYAFQWCCEFLKD 53
Db 33 YGCLLLGKNEGCDKECKAKNQGSYGYCYAFQWCCEGLPE 72

RESULT 3
A27406
toxin CssiI - Mexican scorpion
C:Species: Centruroides suffusus (Mexican scorpion)
C:Date: 21-May-1988 #sequence_revision 21-May-1988 #text_change 09-Jul-2004
C:Accession: A27406
R:Martin, M.F.; Garcia, Y.; Perez, L.G.; El Ayeb, M.; Kopeyan, C.; Bechis, G.; Jover, E.
J. Biol. Chem. 262, 4452-4459, 1987
A:Title: Purification and chemical and biological characterizations of seven toxins from
A:Reference number: A27406; MUID:87165842; PMID:2435711
A:Contents: C. s. suffusus
A:Accession: A27406
A:Molecule type: protein
A:Residues: 1-66 <MAR>
A:Cross-references: UNIPROT:P08900
C:Superfamily: scorpion neurotoxin

Query Match 32.1%; Score 110; DB 2; Length 66;
Best Local Similarity 48.8%; Pred. NO. 4.2e-05;
Matches 21; Conservative 6; Mismatches 14; Indels 2; Gaps 2;

QY 16 YLCAPLGNDPDCIKIC-QKHGVDY-GYCYAFQWCCEFLKENV 56
Db 14 YECLKLGNDYCLRECKQYKSSGGYCYAFACWCTHLYEQAV 56

RESULT 4
A55869
crustacean-specific toxin 1 - scorpion (Centruroides limpidus)
C:Species: Centruroides limpidus limpidus
C:Date: 05-Jan-1996 #sequence_revision 05-Jan-1996 #text_change 09-Jul-2004
C:Accession: A55869
R:Lebreton, F.; Delepiere, M.; Ramirez, A.N.; Balderas, C.; Possani, L.D.
Biochemistry 33, 11135-11149, 1994
A:Title: Primary and NMR three-dimensional structure determination of a novel crustacean
A:Reference number: A55869; MUID:95244424; PMID:7727365
A:Accession: A55869
A>Status: preliminary
A:Molecule type: protein
A:Residues: 1-66 <LEB>
A:Cross-references: UNIPROT:P45667
C:Superfamily: scorpion neurotoxin
C:Keywords: disulfide bond; toxin
F:12-65,16-41,25-46,29-48/Disulfide bonds: #status experimental

Query Match 31.8%; Score 109; DB 2; Length 66;
Best Local Similarity 50.0%; Pred. NO. 5.4e-05;
Matches 20; Conservative 4; Mismatches 14; Indels 2; Gaps 1;

QY 16 YLCAPLGNDPDCIKIC--QKHGVDYGYCYAFQWCCEFLKD 53
Db 14 YGCFWLKNGNECDKECKAKNQGSYGYCYAFQWCCEGLPE 53

RESULT 5
JN0670
Na+-channel-blocking toxin (clone cngtIII) precursor - scorpion (Centruroides noxius)
C:Species: Centruroides noxius

C:Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 09-Jul-2004
C:Accession: JN0670
R:Becceril, B.; Vazquez, A.; Garcia, C.; Corona, M.; Bolivar, F.; Possani, L.D.
Gene 128, 165-171, 1993
A:Title: Cloning and characterization of cDNAs that code for Na+-channel-blocking toxins
A:Reference number: JN0669; MUID:93292983; PMID:8390386
C:Accession: JN0670
A:Molecule type: mRNA
A:Residues: 1-87 <BEC>
A:Cross-references: UNIPROT:P45664; GB:L05061; NID:G304568; PIDN:AAA28286.1; PID:G304569
A:Experimental source: venom gland
C:Superfamily: scorpion neurotoxin
C:Keywords: toxin
F:1-19/Domain: signal sequence #status predicted <SIG>
F:20-87/Product: Na+-channel-blocking toxin (clone cngtIII) #status predicted <MAT>

Query Match 31.8%; Score 109; DB 2; Length 87;
Best Local Similarity 52.5%; Pred. NO. 6.9e-05;
Matches 21; Conservative 2; Mismatches 15; Indels 2; Gaps 1;

QY 16 YLCAPLGNDPDCIKIC--QKHGVDYGYCYAFQWCCEFLKD 53
Db 33 YGCFWLKNGNECDKECKAKNQGSYGYCYAFQWCCEGLPE 72

RESULT 6
NTSR2N
Na+-channel-blocking toxin 2 precursor [validated] - scorpion (Centruroides noxius)
N:Alternate names: neurotoxin 2; sodium channel-blocking toxin 2; toxin II.9.2.2
C:Species: Centruroides noxius
C:Date: 15-Oct-1982 #sequence_revision 01-Sep-2000 #text_change 09-Jul-2004
C:Accession: T10893; S23079; S45722; A01755
R:Vazquez, A.; Tapia, J.V.; Eliason, W.K.; Martin, B.M.; Lebreton, F.; Delepiere, M.; P.
Toxicon 33, 1161-1170, 1995
A:Title: Cloning and characterization of the cDNAs encoding Na+ channel-specific toxins
A:Reference number: Z17202; MUID:96119048; PMID:8585086
C:Accession: T10893
A:Molecule type: mRNA
A:Residues: 1-84 <VAZ>
A:Cross-references: UNIPROT:P01495; EMBL:S81096; NID:G1336781; PIDN:AAB36086.1; PID:G133
R:Zamudio, F.; Saavedra, R.; Martin, B.M.; Gurrola-Briones, G.; Herion, P.; Possani, L.D.
Eur. J. Biochem. 204, 281-292, 1992
A:Title: Amino acid sequence and immunological characterization with monoclonal antibody
A:Reference number: S23079; MUID:92155216; PMID:1371253
C:Accession: S23079
A:Molecule type: protein
A:Residues: 17-48 'GY', 51-82 <ZAM>
R:Gurrola, G.B.; Moreno-Hagelsieb, G.; Zamudio, F.Z.; Garcia, M.; Soberon, X.; Possani,
FEBS Lett. 347, 59-62, 1994
A:Title: The disulfide bridges of toxin 2 from the scorpion Centruroides noxius Hoffmann
us.
A:Reference number: S45722; MUID:94283630; PMID:8013663
C:Accession: S45722
A:Molecule type: protein
A:Residues: 25-30;31-33; 'X', 35,43-46; 'XY', 61-63; 'X', 65-68; 'XS' <GUR>
R:Martin, B.; Possani, L.D.; Dent, M.A.R.; Maelicke, A.
Toxicon 20, 74, 1982
A:Title: N-terminal sequence of toxin II.9.2.2 from the venom of the Mexican scorpion Ce
A:Reference number: A01755
C:Accession: A01755
A:Molecule type: protein
A:Residues: 17-46 <MAR>
C:Superfamily: scorpion neurotoxin
C:Keywords: neurotoxin; venom
F:17-82/Product: sodium channel-blocking toxin 2 #status experimental
F:28-81,32-57,41-62,45-64/Disulfide bonds: #status experimental

Query Match 31.5%; Score 108; DB 1; Length 84;
Best Local Similarity 46.5%; Pred. NO. 8.6e-05;
Matches 20; Conservative 7; Mismatches 14; Indels 2; Gaps 2;

QY 16 YLCAPLGNDPDCIKIC-QKHGVDY-GYCYAFQWCCEFLKENV 56

Db 30 YECFLGNDNDYCLRECKQYQYKGAGGYCYAFACWCTHLYEQAI 72

RESULT 7

A31188

neurotoxin 1 - scorpion (Centruroides limpidus)

C:Species: Centruroides limpidus tecomanus

C>Date: 28-Feb-1990 #sequence_revision 28-Feb-1990 #text_change 09-Jul-2004

C/Accession: A31188

R/Martin, B.M.; Carbone, E.; Yatani, A.; Brown, A.M.; Ramirez, A.N.; Gurrola, G.B.; Possani, L.D.

A/Title: Amino acid sequence and physiological characterization of toxins from the venom

A/Reference number: A31188; PMID:89073189; PMID:2849217

A/Accession: A31188

A/Molecule type: protein

A/Residues: 1-66 <MAR>

A/Cross-references: UNIPROT:P18926

C:Superfamily: scorpion neurotoxin

C:Keywords: neurotoxin

Query Match 31.2%; Score 107; DB 2; Length 66;

Best Local Similarity 48.8%; Pred. No. 8.9e-05;

Matches 21; Conservative 6; Mismatches 14; Indels 2; Gaps 2;

QY 16 YLCAPLGNDPDCIKIC-QKHGVYD-YGYVAFQWCWCEFLKDENV 56

Db 14 YECFLGNDNDYCLRECKQYQYKGAGGYCYAFACWCTHLYEQAV 56

RESULT 8

JN0672

neurotoxin 4 precursor - scorpion (Centruroides noxius)

N/Alternate names: sodium channel-blocking toxin 4; toxin II-10

C:Species: Centruroides noxius

C>Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 09-Jul-2004

C/Accession: JN0672; S32399; A58106

R/Becerril, B.; Vazquez, A.; Garcia, C.; Corona, M.; Bolivar, F.; Possani, L.D.

A/Title: Cloning and characterization of cDNAs that code for Na+-channel-blocking toxins

A/Reference number: JN0669; PMID:93292983; PMID:8390386

A/Accession: JN0672

A/Molecule type: mRNA

A/Residues: 1-87 <BEC>

A/Cross-references: UNIPROT:P45662; GB:L05063; NID:G304572; PIDN:AAA28288.1; PID:G304573

A/Experimental source: venom gland; clone cngtV

R/Vazquez, A.; Becerril, B.; Martin, B.M.; Zamudio, F.; Bolivar, F.; Possani, L.D.

FES lett. 320, 43-46, 1993

A/Title: Primary structure determination and cloning of the cDNA encoding toxin 4 of the

A/Reference number: S32399; PMID:93215818; PMID:8462674

A/Accession: S32399

A/Molecule type: mRNA

A/Residues: 1-87 <VAZ>

A/Cross-references: GB:L05063; NID:G304572; PIDN:AAA28288.1; PID:G304573

A/Accession: A58106

A/Molecule type: protein

A/Residues: 20-85 <VA2>

C:Superfamily: scorpion neurotoxin

C:Keywords: amidated carboxyl end; neurotoxin; venom

F;1-19/Domain: signal sequence #status predicted <SIG>

F;20-85/Product: neurotoxin 4 #status experimental <MAT>

F;31-84,35-60,44-65,48-67/Disulfide bonds: #status predicted

F;85/Modified site: amidated carboxyl end (Asn) (amide in mature form from following gly

Query Match 31.2%; Score 107; DB 2; Length 87;

Best Local Similarity 48.8%; Pred. No. 0.00011;

Matches 21; Conservative 6; Mismatches 14; Indels 2; Gaps 2;

QY 16 YLCAPLGNDPDCIKIC-QKHGVYD-YGYVAFQWCWCEFLKDENV 56

Db 33 YECFLGNDNDYCLRECKQYQYKGAGGYCYAFACWCTHLYEQAV 75

RESULT 9

S23080

toxin 3 - scorpion (Centruroides noxius)

C:Species: Centruroides noxius

C>Date: 19-Mar-1997 #sequence_revision 19-Mar-1997 #text_change 09-Jul-2004

C/Accession: S23080

R/Zamudio, F.; Saavedra, R.; Martin, B.M.; Gurrola-Briones, G.; Herion, P.; Possani, L.D.

A/Title: Amino acid sequence and immunological characterization with monoclonal antibodies

A/Reference number: S23079; PMID:92155216; PMID:1371253

A/Accession: S23080

A/Status: Preliminary

A/Molecule type: protein

A/Residues: 1-66 <ZAM>

A/Cross-references: UNIPROT:P80076

C:Superfamily: scorpion neurotoxin

Query Match 29.7%; Score 102; DB 2; Length 66;

Best Local Similarity 46.5%; Pred. No. 0.00031;

Matches 20; Conservative 7; Mismatches 14; Indels 2; Gaps 2;

QY 16 YLCAPLGNDPDCIKIC-QKHGVYD-YGYVAFQWCWCEFLKDENV 56

Db 14 YECFLGNDNDYCLRECKQYQYKGAGGYCYAFACWCTHLYEQAV 56

RESULT 10

JN0671

Na+-channel-blocking toxin (clone cngtIV) precursor - scorpion (Centruroides noxius)

C:Species: Centruroides noxius

C>Date: 03-Feb-1994 #sequence_revision 03-Feb-1994 #text_change 09-Jul-2004

C/Accession: JN0671

R/Becerril, B.; Vazquez, A.; Garcia, C.; Corona, M.; Bolivar, F.; Possani, L.D.

Gene 128, 165-171, 1993

A/Title: Cloning and characterization of cDNAs that code for Na+-channel-blocking toxin

A/Reference number: JN0669; PMID:93292983; PMID:8390386

A/Accession: JN0671

A/Molecule type: mRNA

A/Residues: 1-86 <BEC>

A/Cross-references: UNIPROT:P45665; GB:L05062; NID:G304570; PIDN:AAA28287.1; PID:G304571

A/Experimental source: venom gland

C:Superfamily: scorpion neurotoxin

C:Keywords: toxin

F;1-19/Domain: signal sequence #status predicted <SIG>

F;20-86/Product: Na+-channel-blocking toxin (clone cngtIV) #status predicted <MAT>

Query Match 29.7%; Score 102; DB 2; Length 86;

Best Local Similarity 52.6%; Pred. No. 0.00038;

Matches 20; Conservative 4; Mismatches 12; Indels 2; Gaps 2;

QY 18 CAPLGNDPDCIKIC-QH-GVDYGYCYAFQWCWCEFLKD 53

Db 34 CYKLGENDYCNRECKQKRGSGYGYCYGFCYCEGLSD 71

RESULT 11

NTSRIC

neurotoxin I - bark scorpion

C:Species: Centruroides sculpturatus (bark scorpion)

C>Date: 22-Jun-1981 #sequence_revision 22-Jun-1981 #text_change 09-Jul-2004

C/Accession: A01751

R/Babin, D.R.; Watt, D.D.; Goos, S.M.; Mlejnek, R.V.

Arch. Biochem. Biophys. 166, 125-134, 1975

A/Title: Amino acid sequence of neurotoxin I from Centruroides sculpturatus Ewing.

A/Reference number: A01751; PMID:75145142; PMID:1122130

A/Accession: A01751

A/Molecule type: protein

A/Residues: 1-64 <BAB>

A/Cross-references: UNIPROT:P01491

C:Superfamily: scorpion neurotoxin

C:Keywords: neurotoxin; venom

F;11-63,15-40,24-45,28-47/Disulfide bonds: #status predicted

Query Match 29.4%; Score 101; DB 1; Length 64;

R; Possani, L.D.; Martin, B.M.; Svendsen, I.; Rode, G.S.; Erickson, B.W. Biochem. J. 229, 739-750, 1985
A; Title: Scorpion toxins from *Centruroides noxius* and *Tityus serrulatus*. Primary structure of the toxin from *C. noxius*.
A; Reference number: S32789; MUID: 86025386; PMID: 4052021
A; Accession: S32789
A; Status: preliminary
A; Molecule type: protein
A; Residues: 1-64 <POS>
A; Cross-references: UNIPROT: P15223
C; Superfamily: scorpion neurotoxin

A:Accession: 251423
A:Molecule type: protein
A:Cross-references: UNIPROT:P19855
A:Residues: 1-61 <IOL>
R:Kopeyan, C.; Mansuelle, P.; Sampieri, F.; Brando, T.; Bahraoui, E.M.; Rochat, F.EBS Lett. 261, 423-426, 1990
A:Title: Primary structure of scorpion anti-insect toxins isolated from the venom of *Scorpius taurus*
A:Reference number: S08267; MUID:90184494; PMID:2311768

A;Molecule type: protein
A;Residues: 1-61 <KOP>
R;Zlotkin, E.; Eitan, M.; Bindokas, V.P.; Adams, M.E.; Moyer, M.; Burkhardt, W.; Biochemistry 30, 4814-4821, 1991
A;Title: Functional duality and structural uniqueness of depressant insect-selective
A;Reference number: A38526; MUID:91230120; PMID:2029523
A;Accession: B38526
A;Molecule type: protein
A;Residues: 1-61 <ZLO2>
A;Cross-references: CAS:130300-67-3
C;Superfamily: scorpion neurotoxin
C;Keywords: neurotoxin; venom
F;10-60,14-35,21-42,25-44/Disulfide bonds: #status predicted
Query Match 26.8%; Score 92; DB 2; Length 61;
Best Local Similarity 48.5%; Pred. No. 0.0034;
Matches 16; Conservative 4; Mismatches 11; Indels 2; Gaps 1;

```
Qy      24 NPDCIKIQKHGVNDYGYCYAF--QCWCEFLKDE 54
        |   _   :   :   |||   :   |||   |
Db      18 NEGCNKECKSYGSGYGICWTWGLACWCEGLPDE 50
```

Search completed: July 8, 2005, 15:33:48
Job time : 40 secs

GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: July 8, 2005, 15:14:10 ; Search time 162 Seconds
(without alignments)
138.470 Million cell updates/sec

Title: US-10-617-978-20

Perfect score: 343

Sequence: 1 ADVPGNYPLDSSDNTYLCAPE.....GYCAFCWCBEFLKDNVAV 58

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 2105692 seqs, 386760381 residues

Total number of hits satisfying chosen parameters: 2105692

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : A_Geneseq_16Dec04:*

- 1: geneseqp1980s:*
- 2: geneseqp1990s:*
- 3: geneseqp2000s:*
- 4: geneseqp2001s:*
- 5: geneseqp2002s:*
- 6: geneseqp2003as:*
- 7: geneseqp2003bs:*
- 8: geneseqp2004s:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	228.5	66.6	58	6	ABR55370 Amino aci
2	226.5	66.0	58	6	ABR55371 Amino aci
3	224	65.3	58	6	ABR55369 Amino aci
4	221	64.4	58	6	ABR55368 Amino aci
5	164.5	48.0	89	4	AAB20075 Scorpion
6	161.5	47.1	89	4	AAB20077 Scorpion
7	152.5	44.5	89	4	AAB20076 Scorpion
8	152.5	44.5	89	4	AAB20078 Scorpion
9	120	35.0	69	3	AAB12941 Neurotran
10	119.5	34.8	65	6	ABR55383 Amino aci
11	113.5	33.1	65	6	ABR55381 Amino aci
12	111	32.4	87	6	ABR55379 Amino aci
13	110	32.1	66	6	ABR55384 Amino aci
14	109	31.8	66	6	ABR55378 Amino aci
15	109	31.8	87	6	ABR55377 Amino aci
16	108	31.5	84	6	ABR55385 Amino aci
17	107	31.2	66	6	ABR55387 Amino aci
18	107	31.2	66	6	ABR55386 Amino aci
19	107	31.2	67	2	AAV30314 Amino aci
20	106.5	31.0	65	6	ABR55380 Amino aci
21	102	29.7	66	6	ABR55388 Amino aci
22	102	29.7	86	6	ABR55389 Amino aci
23	101	29.4	64	6	ABR55391 Amino aci
24	101	29.4	86	6	ABR55390 Amino aci
25	100	29.2	66	6	ABR55382 Amino aci

ALIGNMENTS

RESULT 1

ABR55370
ID ABR55370 standard; peptide; 58 AA.

XX ABR55370;

DT 29-JUL-2003 (first entry)

DE Amino acid sequence of dotoxin.

XX Scorpion; birtoxin; venom; blood brain barrier; ion channel;
KW kinin receptor; insecticide; pesticide; dotoxin.

XX Parabuthus transvaalicus.

XX WO2003028666-A2.

XX 10-APR-2003.

XX 04-OCT-2002; 2002WO-US031861.

XX 04-OCT-2001; 2001US-0327602P.

XX 28-JUN-2002; 2002US-0393070P.

XX (REGC) UNIV CALIFORNIA.

XX Hammock BD, Inceoglu B;

XX WPI; 2003-441071/41.

XX Novel scorpion birtoxin family polypeptide derived from venom of
PT Parabuthus transvaalicus, useful for producing a composition for treating
PT diseases or conditions associated with ion channel function or kinin
PT activity.

XX Claim 6; Page 74; 104pp; English.

XX The specification describes a scorpion birtoxin family polypeptide,
CC derived from the venom of Parabuthus transvaalicus, separated from its
CC natural milieu. The polypeptide is a modulator of the permeability of the
CC blood brain barrier. The polypeptide also has an ion channel binding
CC activity of a birtoxin family polypeptide and kinin receptor activity.
CC The peptide is useful for modulating the permeability of the blood brain
CC barrier. It is also useful for producing pharmaceutical compositions
CC which are useful for treating diseases and conditions associated with the
CC ion channel function or kinin activity. Antibodies generated using the
CC polypeptide are useful for detecting the presence of scorpion venom toxin
CC and in altering birtoxin family polypeptide-ion channel binding or kinin

Aay30316 Amino aci
Abp52178 Scorpion
Abr55376 A polypep
Adl23896 Butthold s
Aay30315 Amino aci
Abp52176 Scorpion
Abp52177 Scorpion
Aay92727 Scorpion
Aay44585 lqht12 to
Abr55375 Amino aci
Abr55374 Amino aci
Abr55373 Amino aci
Adl23895 Butthold s
Adl23939 Scorpion
Aaw06339 Scorpion
Aaw18795 Insect-se
Aaw18793 Insect se
Aaw20069 Scorpion
Aab20072 Scorpion
Adl23897 Butthold s

26 27.4 68 2 AAY30316
27 27.1 86 5 ABP52178
28 26.8 61 6 ABR55376
29 26.8 61 8 ADL23896
30 26.8 81 2 AAY30315
31 25.9 66 5 ABP52176
32 25.9 75 5 ABP52177
33 25.9 85 3 AAY92727
34 25.7 61 3 AAY44585
35 25.7 61 6 ABR55375
36 25.7 61 6 ABR55374
37 25.7 61 6 ABR55373
38 25.7 61 8 ADL23895
39 25.7 62 8 ADL23939
40 25.7 65 2 AAW06339
41 25.7 80 2 AAW18795
42 25.7 80 2 AAW21993
43 25.4 80 4 AAB20069
44 25.1 83 4 AAB20072
45 24.8 61 8 ADL23897

	/		
XX	Key	Location/Qualifiers	
FH	Protein	1. .21 /label= Sig_peptide	
FT		22. .89 /label= Mature_protein	
PB			
PN	WO200078957-A2.		
XX			
PD	28-DEC-2000.		
PF	21-JUN-2000; 2000WO-USO17048.		
PR	22-JUN-1999; 99US-0140410P.		
PA	(DUPO) DU PONT DE NEMOURS & CO E I.		
PI	Herrmann R, Lee J, Wong JF;		
DR	N-PSDB; AAA89397.		
PT	New isolated polynucleotide encoding a scorpion toxin for treating epilepsy, degenerative disorders such as Huntington's disease, and neuronal death following stroke, and for creating plants that are insect-tolerant.		
PPS	Claim 10; Page 56-57; 60pp; English.		
CC	The present sequence is that of a scorpion (<i>Buthotus judaicus</i>) venom protein showing 29.7% identity to an insecticidal toxin of Orthochirus scrobiculosus. The sequence was predicted from a cDNA clone (see AAA89397) isolated from the scorpion telson cDNA library. The invention provides isolated nucleic acid sequences (see AAA89386-400) encoding scorpion toxins (see AAB20064-78) that are sodium channel modifiers. The invention also relates to the construction of a chimeric gene encoding all or part of the sodium channel modifier, in sense or antisense orientation, where expression of the chimERIC gene results in production of altered levels of the sodium channel modifier in a transformed host cell. Sodium channel modifiers can be used to treat neurological problems involving abnormal functioning of excitatory amino acid synapses, e.g., epilepsy, Huntington's disease and neuronal death following stroke. Genetically engineered recombinant baculoviruses which express protein toxins capable of incapacitating an insect host can be used as biological insecticides. The nucleic acids can be used to create transgenic plants in which sodium channel agonists of the invention are expressed for improved insect tolerance. (Updated on 11-SEP-2003 to standardise OS field)		
SQ	Sequence 89 AA;		
	Query Match 48.0%; Score 164.5; DB 4; Length 89; Best Local Similarity 45.6%; Pred. No. 1.7e-11; Matches 26; Conservative 9; Mismatches 21; Indels 1; Gaps 1;		
OY	2 DVGNYPLSDNDTYLCAPLDNPDCIKICQHGVGYGCVAFQCWCEFLKXENVKV 58 : 24 DTGNVPISVYGTSYGCATFNHN-YCYDICKNVHGKYGYCWVTSCWCXYLKEDIDI 79 :		
Db			
RESULT 6			
AAB20077	ID ID AAB20077 standard; protein; 89 AA.		
AC	AAB20077;		
DT	11-SEP-2003 (revised) 23-APR-2001 (first entry)		
XE	Scorpion sodium channel agonist (insecticidal toxin).		
KW	Scorpion; venom; toxin; sodium channel agonist; anticonvulsant; nootropic; cerebroprotective; insecticide.		

DT 23-NOV-2000 (first entry)

PA (REGC) UNIV CALIFORNIA.

PI Hammock BD, Inceoglu B;
XX WPI; 2003-441071/41.
XX
XX Novel scorpion birtoxin family polypeptide derived from venom of
PT Parabuthus transvaalicus, useful for producing a composition for treating
PT diseases or conditions associated with ion channel function or kinin
PT activity.
XX
XX Disclosure; Page 100; 104pp; English.
PS
XX The specification describes a scorpion birtoxin family polypeptide,
CC derived from the venom of Parabuthus transvaalicus, separated from its
CC natural milieu. The polypeptide is a modulator of the permeability of the
CC blood brain barrier. The polypeptide also has an an ion channel binding
CC activity of a birtoxin family polypeptide and kinin receptor activity.
XX The peptide is useful for modulating the permeability of the blood brain
CC barrier. It is also useful for producing pharmaceutical compositions
CC which are useful for treating diseases and conditions associated with the
CC ion channel function or kinin activity. Antibodies generated using the
CC polypeptide are useful for detecting the presence of scorpion venom toxin
CC and in altering birtoxin family polypeptide-ion channel binding or kinin
CC activity. Antivenom comprising these antibodies is useful as an
CC insecticide or pesticide. The present sequence appears in the
CC specification
XX
SQ Sequence 65 AA;
Query Match 34.8%; Score 119.5; DB 6; Length 65;
Best Local Similarity 50.0%; Pred. No. 2.3e-06;
Matches 21; Conservative 6; Mismatches 14; Indels 1; Gaps 1;
QY 16 YLCAPLGDNDPCIKIC-QKHGVDYGYCYAFQWCWCEFLKDNV 56
| | | | | : : : : : | | | | | : : : : :
DB 14 YECLKLDNDYCLIRECQQYKSGGYCYAFACWCTHLYEQAV 55
RESULT 11
ID ABR55381
ID ABR55381 standard; peptide; 65 AA.
AC ABR55381;
XX
XX 29-JUL-2003 (first entry)
XX
XX Amino acid sequence of a polypeptide of Centruroides sculpturatus.
DE
XX Scorpion; birtoxin; blood brain barrier; Parabuthus transvaalicus;
KW ion channel; kinin receptor; insecticide; pesticide; venom.
XX
XX Centruroides sculpturatus.
OS
XX WO2003028666-A2.
PN
XX 10-APR-2003.
PD
XX
XX 04-OCT-2002; 2002WO-US031861.
PF
XX
XX 04-OCT-2001; 2001US-0327602P.
PR
XX 28-JUN-2002; 2002US-0393070P.
XX
XX (REGC) UNIV CALIFORNIA.
PA
XX Hammock BD, Inceoglu B;
PI
XX WPI; 2003-441071/41.
XX
XX Novel scorpion birtoxin family polypeptide derived from venom of
PT Parabuthus transvaalicus, useful for producing a composition for treating
PT diseases or conditions associated with ion channel function or kinin
PT activity.
XX
XX Disclosure; Page 100; 104pp; English.
PS

XX The specification describes a scorpion birtoxin family polypeptide,
CC derived from the venom of Parabuthus transvaalicus, separated from its
CC natural milieu. The polypeptide is a modulator of the permeability of the
CC blood brain barrier. The polypeptide also has an an ion channel binding
CC activity of a birtoxin family polypeptide and kinin receptor activity.
XX The peptide is useful for modulating the permeability of the blood brain
CC barrier. It is also useful for producing pharmaceutical compositions
CC which are useful for treating diseases and conditions associated with the
CC ion channel function or kinin activity. Antibodies generated using the
CC polypeptide are useful for detecting the presence of scorpion venom toxin
CC and in altering birtoxin family polypeptide-ion channel binding or kinin
CC activity. Antivenom comprising these antibodies is useful as an
CC insecticide or pesticide. The present sequence appears in the
CC specification
XX
SQ Sequence 65 AA;
Query Match 33.1%; Score 113.5; DB 6; Length 65;
Best Local Similarity 46.0%; Pred. No. 1.2e-05;
Matches 23; Conservative 4; Mismatches 20; Indels 3; Gaps 2;
QY 7 YPLDSSDN-TYLCAPLGDNDPCIKIC-QKHGVDYGYCYAFQWCWCEFLKD 53
| : | | | | : | | : | | | | | : | | | | :
DB 4 YLVKKSDBGKYGLKJGENEGDTECKAKNOGSGSYGYCYAFACWCEGLPE 53
RESULT 12
ID ABR55379
ID ABR55379 standard; peptide; 87 AA.
XX
XX ABR55379;
AC
XX 29-JUL-2003 (first entry)
DT
XX
XX Amino acid sequence of a polypeptide of Centruroides noxius.
DE
XX Scorpion; birtoxin; blood brain barrier; Parabuthus transvaalicus;
KW ion channel; kinin receptor; insecticide; pesticide; venom.
XX
XX Centruroides noxius.
OS
XX WO2003028666-A2.
PN
XX 10-APR-2003.
PD
XX
XX 04-OCT-2002; 2002WO-US031861.
PF
XX
XX 04-OCT-2001; 2001US-0327602P.
PR
XX 28-JUN-2002; 2002US-0393070P.
XX
XX (REGC) UNIV CALIFORNIA.
PA
XX Hammock BD, Inceoglu B;
PI
XX WPI; 2003-441071/41.
XX
XX Novel scorpion birtoxin family polypeptide derived from venom of
PT Parabuthus transvaalicus, useful for producing a composition for treating
PT diseases or conditions associated with ion channel function or kinin
PT activity.
XX
XX Disclosure; Page 99; 104pp; English.
PS
XX The specification describes a scorpion birtoxin family polypeptide,
CC derived from the venom of Parabuthus transvaalicus, separated from its
CC natural milieu. The polypeptide is a modulator of the permeability of the
CC blood brain barrier. The polypeptide also has an an ion channel binding
CC activity of a birtoxin family polypeptide and kinin receptor activity.
XX The peptide is useful for modulating the permeability of the blood brain
CC barrier. It is also useful for producing pharmaceutical compositions
CC which are useful for treating diseases and conditions associated with the
CC ion channel function or kinin activity. Antibodies generated using the

Query Match 32.1%; Score 110; DB 6; Length 66;
Best Local Similarity 48.8%; Pred. No. 3.1e-05;

ABR55377
ID ABR55377 standard; peptide; 87 AA.

XX ABR55377;
AC
XX
XX 29-JUL-2003 (first entry)
XX
XX Amino acid sequence of a polypeptide of Centruroides noxius.
DE
XX
XX Scorpion; birtoxin; blood brain barrier; Parabuthus transvaalicus;
KW ion channel; kinin receptor; insecticide; pesticide; venom.
XX
XX Centruroides noxius.
OS
XX
XX WO2003028666-A2.
FN
XX
XX 10-APR-2003.
PD
XX
XX 04-OCT-2002; 2002WO-US031861.
PF
XX
XX 04-OCT-2001; 2001US-0327602P.
PR
XX
XX 28-JUN-2002; 2002US-0393070P.
PR
XX
XX (REGC) UNIV CALIFORNIA.
PA
XX
XX Hammock BD, Inceoglu B;
PI
XX
XX WPI; 2003-441071/41.
DR
XX
XX Novel scorpion birtoxin family polypeptide derived from venom of
PT Parabuthus transvaalicus, useful for producing a composition for treating
PT diseases or conditions associated with ion channel function or kinin
PT activity.
XX
XX Disclosure; Page 98; 104pp; English.
PS
XX
XX The specification describes a scorpion birtoxin family polypeptide,
CC derived from the venom of Parabuthus transvaalicus, separated from its
CC natural milieu. The polypeptide is a modulator of the permeability of the
CC blood brain barrier. The polypeptide also has an ion channel binding
CC activity of a birtoxin family polypeptide and kinin receptor activity.
CC The peptide is useful for modulating the permeability of the blood brain
CC barrier. It is also useful for producing pharmaceutical compositions
CC which are useful for treating diseases and conditions associated with the
CC ion channel function or kinin activity. Antibodies generated using the
CC polypeptide are useful for detecting the presence of scorpion venom toxin
CC and in altering birtoxin family polypeptide-ion channel binding or kinin
CC activity. Antivenom comprising these antibodies is useful as an
CC insecticide or pesticide. The present sequence appears in the
CC specification
XX
SQ Sequence 87 AA;

Query Match 31.8%; Score 109; DB 6; Length 87;
Best Local Similarity 52.5%; Pred. No. 5.5e-05;
Matches 21; Conservative 2; Mismatches 15; Indels 2; Gaps 1;
QY 16 YLCAPLGNDPCIKIC--QKHGVDTGYCYAFQWCWCEFLKD 53
DB 33 YGCFWLGRNEGDKCKAKNQGSGYCYAFQWCWCEGLPE 72

Search completed: July 8, 2005, 15:29:57
Job time : 164 secs

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OM protein - protein search, using sw model

Run on: July 8, 2005, 15:27:17 ; Search time 42 Seconds
(without alignments)
103.087 Million cell updates/sec

Title: US-10-617-978-20
Perfect score: 343
Sequence: 1 ADVPGNYPLDSSDNTYLCA.....GYCFAQCWCEFLKDNVKV 58

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 513545 seqs, 74649064 residues

Total number of hits satisfying chosen parameters: 513545

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Issued Patents AA:*
1: /cgn2.6/prodata/1/1aa/5A COMB.pep:*
2: /cgn2.6/prodata/1/1aa/5B COMB.pep:*
3: /cgn2.6/prodata/1/1aa/6A COMB.pep:*
4: /cgn2.6/prodata/1/1aa/6B COMB.pep:*
5: /cgn2.6/prodata/1/1aa/PTUS COMB.pep:*
6: /cgn2.6/prodata/1/1aa/backfiles1.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	164.5	48.0	89	4	US-09-599-632-31
2	161.5	47.1	89	4	US-09-599-632-35
3	152.5	44.5	89	4	US-09-599-632-33
4	152.5	44.5	89	4	US-09-599-632-37
5	107	31.2	67	3	US-09-053-021-2
6	101	29.4	68	3	US-09-053-021-1
7	101	29.4	81	3	US-09-053-021-4
8	101	29.4	81	3	US-09-053-021-9
9	94	27.4	64	4	US-09-599-632-25
10	92	26.8	61	1	US-08-682-485A-25
11	92	26.8	61	1	US-08-451-472-4
12	92	26.8	61	2	US-08-933-314-25
13	92	26.8	61	4	US-08-472-053-3
14	88	25.7	62	4	US-08-472-053-2
15	88	25.7	62	4	US-08-472-053-46
16	88	25.7	80	3	US-08-952-383A-14
17	88	25.7	80	3	US-08-970-264A-27
18	88	25.7	85	4	US-09-599-632-22
19	87.5	25.5	62	1	US-08-451-472-5
20	87	25.4	80	4	US-09-599-632-12
21	86	25.1	60	1	US-08-451-472-6
22	86	25.1	83	4	US-09-599-632-18
23	85	24.8	61	1	US-08-682-485A-26
24	85	24.8	61	2	US-08-933-314-26
25	85	24.8	61	4	US-08-472-053-4
26	85	24.8	85	4	US-09-599-632-23
27	84	24.5	65	1	US-08-435-040-2

28	84	24.5	65	3	US-09-020-216-2	Sequence 2, Appli
29	83	24.2	59	4	US-09-599-632-27	Sequence 27, Appl
30	82	23.9	87	4	US-09-599-632-16	Sequence 16, Appl
31	80.5	23.5	396	2	US-08-838-219B-9	Sequence 9, Appli
32	80.5	23.5	396	3	US-09-233-336A-9	Sequence 9, Appli
33	80.5	23.5	396	3	US-09-233-752A-9	Sequence 9, Appli
34	80.5	23.5	396	3	US-09-402-036-9	Sequence 9, Appli
35	80.5	23.5	396	4	US-09-904-226-9	Sequence 9, Appli
36	80	23.3	85	4	US-09-599-632-14	Sequence 14, Appl
37	76.5	22.3	84	4	US-09-599-632-4	Sequence 4, Appli
38	75.5	22.0	64	4	US-09-403-343B-25	Sequence 25, Appl
39	75	21.9	44	4	US-09-480-251-4	Sequence 4, Appli
40	75	21.9	64	4	US-08-472-053-1	Sequence 1, Appli
41	75	21.9	64	4	US-08-472-053-5	Sequence 5, Appli
42	75	21.9	69	4	US-09-480-251-6	Sequence 6, Appli
43	75	21.9	70	4	US-09-480-251-2	Sequence 2, Appli
44	74.5	21.7	84	4	US-09-599-632-26	Sequence 26, Appl
45	73.5	21.4	67	1	US-08-435-040-3	Sequence 3, Appli

ALIGNMENTS

RESULT 1
US-09-599-632-31
; Sequence 31, Application US/09599632
; Patent No. 6768002
; GENERAL INFORMATION:
; APPLICANT: Herrman, Rafael
; APPLICANT: Wong, James F.
; APPLICANT: Lee, Jian-Ming
; TITLE OF INVENTION: SCORPION TOXINS
; FILE REFERENCE: BBI375 US NA
; CURRENT APPLICATION NUMBER: US/09/599,632
; CURRENT FILING DATE: 2000-06-22
; PRIOR APPLICATION NUMBER: 60/140,410
; PRIOR FILING DATE: 1999-06-22
; NUMBER OF SEQ ID NOS: 38
; SOFTWARE: Microsoft Office 97
; SEQ ID NO 31
; LENGTH: 89
; TYPE: PRT
; ORGANISM: Hottentotta judiaca
US-09-599-632-31

Query Match 48.0%; Score 164.5; DB 4; Length 89;
Best Local Similarity 45.6%; Pred. No. 1.4e-12;
Matches 26; Conservative 9; Mismatches 21; Indels 1; Gaps 1;
QY 2 DVPGNYPLDSSDNTYLCAPLGNPDCIKCKHGYDYGYCFAQCWCEFLKDNVKV 58
DB 24 DTFGNYPISVYGTSGCTAFNHN-YCVDICKHGVKYGVCWYTSWCCEYLKEDIDI 79

RESULT 2
US-09-599-632-35
; Sequence 35, Application US/09599632
; Patent No. 6768002
; GENERAL INFORMATION:
; APPLICANT: Herrman, Rafael
; APPLICANT: Wong, James F.
; APPLICANT: Lee, Jian-Ming
; TITLE OF INVENTION: SCORPION TOXINS
; FILE REFERENCE: BBI375 US NA
; CURRENT APPLICATION NUMBER: US/09/599,632
; CURRENT FILING DATE: 2000-06-22
; PRIOR APPLICATION NUMBER: 60/140,410
; PRIOR FILING DATE: 1999-06-22
; NUMBER OF SEQ ID NOS: 38
; SOFTWARE: Microsoft Office 97
; SEQ ID NO 35
; LENGTH: 89
; TYPE: PRT

Query Match	Best Local Similarity	Score	DB 4	Length	89	Indels	1	Gaps	1
4	PGNYPLDSSDNTYLCAPLGNDPDCIKIQKHGVDYGYCYAFQWCCEFLKDNKV 58	47.1%	Score 161.5	DB 4	Length 89	Indels 1	Gaps 1		
26	PGNYPISYGQSGTCS-SHDYCADICKVHGVDYGYCYAFQWCCEFLKDNKV 79	45.5%	Pred. No. 3.2e-12						
<p>Matches 25; Conservative 11; Mismatches 18; Indels 1; Gaps 1;</p>									
<p>RESULT 3</p> <p>US-09-599-632-33</p> <p>Sequence 33, Application US/09599632</p> <p>Patent No. 6768002</p> <p>GENERAL INFORMATION:</p> <p>APPLICANT: Herrman, Rafael</p> <p>APPLICANT: Wong, James F.</p> <p>APPLICANT: Lee, Jian-Ming</p> <p>TITLE OF INVENTION: SCORPION TOXINS</p> <p>FILE REFERENCE: BB1375 US NA</p> <p>CURRENT APPLICATION NUMBER: US/09/599,632</p> <p>CURRENT FILING DATE: 2000-06-22</p> <p>PRIOR APPLICATION NUMBER: 60/140,410</p> <p>PRIOR FILING DATE: 1999-06-22</p> <p>NUMBER OF SEQ ID NOS: 38</p> <p>SOFTWARE: Microsoft Office 97</p> <p>SEQ ID NO 33</p> <p>LENGTH: 89</p> <p>TYPE: PRT</p> <p>ORGANISM: Hottentotta judiaca</p> <p>US-09-599-632-33</p>									
4	PGNYPLDSSDNTYLCAPLGNDPDCIKIQKHGVDYGYCYAFQWCCEFLKDNKV 58	44.5%	Score 152.5	DB 4	Length 89	Indels 1	Gaps 1		
26	PGNYPISYGQSGTCS-SHDYCADICKVHGVDYGYCYAFQWCCEFLKDNKV 79	43.6%	Pred. No. 3.9e-11						
<p>Matches 24; Conservative 11; Mismatches 19; Indels 1; Gaps 1;</p>									
<p>RESULT 4</p> <p>US-09-599-632-37</p> <p>Sequence 37, Application US/09599632</p> <p>Patent No. 6768002</p> <p>GENERAL INFORMATION:</p> <p>APPLICANT: Herrman, Rafael</p> <p>APPLICANT: Wong, James F.</p> <p>APPLICANT: Lee, Jian-Ming</p> <p>TITLE OF INVENTION: SCORPION TOXINS</p> <p>FILE REFERENCE: BB1375 US NA</p> <p>CURRENT APPLICATION NUMBER: US/09/599,632</p> <p>CURRENT FILING DATE: 2000-06-22</p> <p>PRIOR APPLICATION NUMBER: 60/140,410</p> <p>PRIOR FILING DATE: 1999-06-22</p> <p>NUMBER OF SEQ ID NOS: 38</p> <p>SOFTWARE: Microsoft Office 97</p> <p>SEQ ID NO 37</p> <p>LENGTH: 89</p> <p>TYPE: PRT</p> <p>ORGANISM: Hottentotta judiaca</p> <p>US-09-599-632-37</p>									
4	PGNYPLDSSDNTYLCAPLGNDPDCIKIQKHGVDYGYCYAFQWCCEFLKDNKV 58	44.5%	Score 152.5	DB 4	Length 89	Indels 1	Gaps 1		
26	PGNYPISYGQSGTCS-SHDYCADICKVHGVDYGYCYAFQWCCEFLKDNKV 79	43.6%	Pred. No. 3.9e-11						
<p>Matches 24; Conservative 11; Mismatches 19; Indels 1; Gaps 1;</p>									
<p>Query Match</p> <p>Best Local Similarity</p> <p>Matches</p>									
4	PGNYPLDSSDNTYLCAPLGNDPDCIKIQKHGVDYGYCYAFQWCCEFLKDNKV 58	44.5%	Score 152.5	DB 4	Length 89	Indels 1	Gaps 1		
26	PGNYPISYGQSGTCS-SHDYCADICKVHGVDYGYCYAFQWCCEFLKDNKV 79	43.6%	Pred. No. 3.9e-11						
<p>Matches 24; Conservative 11; Mismatches 19; Indels 1; Gaps 1;</p>									
<p>Query Match</p> <p>Best Local Similarity</p> <p>Matches</p>									
4	PGNYPLDSSDNTYLCAPLGNDPDCIKIQKHGVDYGYCYAFQWCCEFLKDNKV 58	44.5%	Score 152.5	DB 4	Length 89	Indels 1	Gaps 1		
26	PGNYPISYGQSGTCS-SHDYCADICKVHGVDYGYCYAFQWCCEFLKDNKV 79	43.6%	Pred. No. 3.9e-11						
<p>Matches 24; Conservative 11; Mismatches 19; Indels 1; Gaps 1;</p>									

APPLICANT: SELISKO, Barbara
APPLICANT: GARCIA-RODRIGUEZ, Consuelo
APPLICANT: ZAMUDIO-ZUNIGA, Fernando
APPLICANT: BECERRIL-LUJAN, Baltazar
APPLICANT: POSSANI-POSTAY, Lourival D.
TITLE OF INVENTION: Primary Sequence and cDNA of
Patent No. 6270785
TITLE OF INVENTION: Insecticidally Effective Toxins from Scorpions of the
TITLE OF INVENTION: Genus Centruroides
NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
ADDRESSEE: Finnegan, Henderson, Farabow, Garrett &
ADDRESSEE: Dunner, L.L.P.
STREET: 1300 I Street, N.W.
CITY: Washington
STATE: DC
COUNTRY: USA
ZIP: 20005
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/053,021
FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/017,007
FILING DATE: 30-APR-1996
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/848,261
FILING DATE: 29-APR-1997
ATTORNEY/AGENT INFORMATION:
NAME: Garrett, Arthur S.
REGISTRATION NUMBER: 20,338
REFERENCE/DOCKET NUMBER: 06899.0001-01000
TELEPHONE: (202)408-4000
TELEFAX: (202)408-4400
INFORMATION FOR SEQ ID NO: 1:
SEQUENCE CHARACTERISTICS:
LENGTH: 68 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: peptide
ORIGINAL SOURCE:
ORGANISM: Centruroides noxius Hoffman
DEVELOPMENTAL STAGE: Adult
TISSUE TYPE: venom
PUBLICATION INFORMATION:
AUTHORS: Selisko, Barbara
AUTHORS: Garcia, Consuelo
AUTHORS: Becerril, Baltazar
AUTHORS: Delepierre, Muriel
AUTHORS: Possani, Lourival D.
TITLE: An insect-specific toxin from Centruroides
TITLE: noxius Hoffman cDNA, primary structure,
TITLE: three-dimensional model and electrostatic surface
TITLE: potentials in comparison with other toxin variants
JOURNAL: Eur. J. Biochem.
VOLUME: 242
PAGES: 235-242
DATE: 1996
RELEVANT RESIDUES IN SEQ ID NO: 1: FROM 1 TO 68
US-09-053-021-1

Query Match 29.4%; Score 101; DB 3; Length 68;
Best Local Similarity 45.0%; Pred. No. 4.6e-05;
Matches 18; Conservative 4; Mismatches 16; Indels 2; Gaps 1;
QY 16 YLCAPLGDNPDCKIC--QKHGVDYGYCYAFQWCCEFLKD 53

Db 14 YNCLILGENKNCMECKAKNQGSYGYCYKLACWCCEGLPE 53
RESULT 7
US-09-053-021-4
Sequence 4, Application US/09053021
Patent No. 6270785
GENERAL INFORMATION:
APPLICANT: SELISKO, Barbara
APPLICANT: GARCIA-RODRIGUEZ, Consuelo
APPLICANT: ZAMUDIO-ZUNIGA, Fernando
APPLICANT: BECERRIL-LUJAN, Baltazar
APPLICANT: POSSANI-POSTAY, Lourival D.
TITLE OF INVENTION: Primary Sequence and cDNA of
Patent No. 6270785
TITLE OF INVENTION: Insecticidally Effective Toxins from Scorpions of the
TITLE OF INVENTION: Genus Centruroides
NUMBER OF SEQUENCES: 9
CORRESPONDENCE ADDRESS:
ADDRESSEE: Finnegan, Henderson, Farabow, Garrett &
ADDRESSEE: Dunner, L.L.P.
STREET: 1300 I Street, N.W.
CITY: Washington
STATE: DC
COUNTRY: USA
ZIP: 20005
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/053,021
FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 60/017,007
FILING DATE: 30-APR-1996
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/848,261
FILING DATE: 29-APR-1997
ATTORNEY/AGENT INFORMATION:
NAME: Garrett, Arthur S.
REGISTRATION NUMBER: 20,338
REFERENCE/DOCKET NUMBER: 06899.0001-01000
TELEPHONE: (202)408-4000
TELEFAX: (202)408-4400
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 81 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-09-053-021-4
Query Match 29.4%; Score 101; DB 3; Length 81;
Best Local Similarity 45.0%; Pred. No. 5.6e-05;
Matches 18; Conservative 4; Mismatches 16; Indels 2; Gaps 1;
QY 16 YLCAPLGDNPDCKIC--QKHGVDYGYCYAFQWCCEFLKD 53
Db 27 YNCLILGENKNCMECKAKNQGSYGYCYKLACWCCEGLPE 66
RESULT 8
US-09-053-021-9
Sequence 9, Application US/09053021
Patent No. 6270785
GENERAL INFORMATION:
APPLICANT: SELISKO, Barbara
APPLICANT: GARCIA-RODRIGUEZ, Consuelo

```

; TYPE: PRT
US-09-599-632-25

Query Match 27.4%; Score 94; DB 4; Length 64;
Best Local Similarity 34.6%; Pred. No. 0.0003;
Matches 18; Conservative 7; Mismatches 23; Indels 4;

QY 7 YPLDSSDNTYLCAPLGDNDPCIKICQKHGVVDYGYC--YAFQCWCEFLKDNV 56
||| : : : : : : : : : : : : : : : : : : : : : : : : : :
3 YPKQKDGCKYSCITI--NHKFCNSVCKSNGGDYGICWFWGLACWCEGLPDNKM 52
||| : : : : : : : : : : : : : : : : : : : : : : : : : :

RESULT 10
US-08-682-485A-25
; Sequence 25, Application US/08682485A
; Patent No. 5763568
; GENERAL INFORMATION:
; APPLICANT: ATKINSON, RONALD K
; APPLICANT: HOWDEN, MERLIN E.H.
; APPLICANT: TYLER, MARGARET J
; APPLICANT: VONARX, EDWARD J
; TITLE OF INVENTION: Insecticidal Toxins Derived From
; TITLE OF INVENTION: Funnel Web (Atrax or Hadronyche Spiders)
; NUMBER OF SEQUENCES: 26
; CORRESPONDENCE ADDRESS:
; ADDRESSER: Zeneca, Inc.
; STREET: 1200 South 47th Street
; CITY: Richmond
; STATE: California
; COUNTRY: USA
; ZIP: 94804
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: PatentIn Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/682,485A
; FILING DATE:
; CLASSIFICATION: 424
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US/08/682,485
; FILING DATE: 17-JULY-1996
; APPLICATION NUMBER: US/08/256,933
; FILING DATE: 27-JULY-1994
; APPLICATION NUMBER: WO 93/15108
; FILING DATE: 29-JAN-1993
; APPLICATION NUMBER: AU PL0722
; FILING DATE: 31-JAN-1992
; ATTORNEY/AGENT INFORMATION:
; NAME: Shaw, Melissa A.
; REGISTRATION NUMBER: 38,301
; REFERENCE/DOCKET NUMBER: PPD 5099/D1
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 510-231-1542
; TELEFAX: 510-231-1112
; INFORMATION FOR SEQ ID NO: 25:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 61 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; HYPOTHETICAL: NO
; ANTI-SENSE: NO
; ORIGINAL SOURCE:
; ORGANISM: Leiurus quinquestriatus quinquestriatus
US-08-682-485A-25

Query Match 26.8%; Score 92; DB 1; Length 61;
Best Local Similarity 48.5%; Pred. No. 0.0005;
Matches 16; Conservative 4; Mismatches 11; Indels 2;

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STATE: California
COUNTRY: USA
ZIP: 94804
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent in Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/933,314
FILING DATE:
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US/08/682,485
FILING DATE: 17-JULY-1996
APPLICATION NUMBER: US/08/256,933
FILING DATE: 27-JULY-1994
APPLICATION NUMBER: WO 93/15108
FILING DATE: 29-JAN-1993
APPLICATION NUMBER: AU PL0722
FILING DATE: 31-JAN-1992
ATTORNEY/AGENT INFORMATION:
NAME: Shaw, Melissa A.
REGISTRATION NUMBER: 38,301
REFERENCE/DOCKET NUMBER: PPD 5099/D1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 510-231-1542
TELEFAX: 510-231-1112
INFORMATION FOR SEQ ID NO: 25:
SEQUENCE CHARACTERISTICS:
LENGTH: 61 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
HYPOTHETICAL: NO
ANTI-SENSE: NO
ORIGINAL SOURCE:
ORGANISM: Leiurus quinquestriatus quinquestriatus
US-08-933-314-25

Query Match 26.8%; Score 92; DB 2; Length
Best Local Similarity 48.5%; Pred. No. 0.0005;
Matches 16; Conservative 4; Mismatches 11; Ind

QY 24 NPDCIKIQKGVGVGYCYAF--QCWCFLKDE 54
DB 18 NEGCKEKSYGSGYCVTWGLACWCEGLPDE 50

RESULT 13
US-08-472-053-3
Sequence 3, Application US/08472053
Patent No. 6689356
GENERAL INFORMATION:
APPLICANT: ZLOTKIN, ELIAHU
APPLICANT: MAEDA, SUSUMU
APPLICANT: MCCUTCHEEN, BILLY F.
APPLICANT: HAMMOCK, BRUCE D.
APPLICANT: FOWLER, ELIZABETH
APPLICANT: BELAGAJE, RAWA M.
TITLE OF INVENTION: RECOMBINANT BACULOVIRUSES PRODUCING
TITLE OF INVENTION: INSECT TOXINS
FILE REFERENCE: UC058.1FWCP2
CURRENT APPLICATION NUMBER: US/08/472,053
CURRENT FILING DATE: 2002-11-13
PRIOR APPLICATION NUMBER: 08/229417
PRIOR FILING DATE: 1994-04-15
PRIOR APPLICATION NUMBER: 07/629603
PRIOR FILING DATE: 1990-12-19
PRIOR APPLICATION NUMBER: 07/286087
PRIOR FILING DATE: 1988-12-19
NUMBER OF SEQ ID NOS: 49
SOFTWARE: FastSeq for Windows Version 4.0

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; SEQ ID NO 3
; LENGTH: 61
; TYPE: PRT
; ORGANISM: Leiurus quinquestriatus quinquestriatus
US-08-472-053-3

Query Match          26.8%; Score 92; DB 4; Length 61;
Best Local Similarity 48.5%; Pred. No. 0.0005;
Matches 16; Conservative 4; Mismatches 11; Indels 2; Gaps 1;

QY      24 NPDCKIKQKHGVDYGYCYAF--QCWCEFLKDE 54
      | | | | | | | | | | | | | | | | | |
Db      18 NEGCKECKSYGSGYGYCWTWGLACWCEGLPDE 50
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RESULT 14
US-08-472-053-2
; Sequence 2, Application US/08472053
; Patent No. 6689356
; GENERAL INFORMATION:
; APPLICANT: ZLOTKIN, ELIAHU
; APPLICANT: MAEDA, SUSUMU
; APPLICANT: MCCUTCHEN, BILLY F.
; APPLICANT: HAMMOCK, BRUCE D.
; APPLICANT: FOWLER, ELIZABETH
; APPLICANT: BELAGAJE, RAMA M.
; TITLE OF INVENTION: RECOMBINANT BACULOVIRUSES PRODUCING
; FILE OF INVENTION: INSECT TOXINS
; FILE REFERENCE: UC058.1FWCP2
; CURRENT APPLICATION NUMBER: US/08/472,053
; CURRENT FILING DATE: 2002-11-13
; PRIOR APPLICATION NUMBER: 08/229417
; PRIOR FILING DATE: 1994-04-15
; PRIOR APPLICATION NUMBER: 07/629603
; PRIOR FILING DATE: 1990-12-19
; PRIOR APPLICATION NUMBER: 07/286087
; PRIOR FILING DATE: 1988-12-19
; NUMBER OF SEQ ID NOS: 49
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 2
; LENGTH: 61
; TYPE: PRT
; ORGANISM: Leiurus quinquestriatus hebraeus
US-08-472-053-2

Query Match          25.7%; Score 88; DB 4; Length 61;
Best Local Similarity 45.5%; Pred. No. 0.0015;
Matches 15; Conservative 5; Mismatches 11; Indels 2; Gaps 1;

QY      24 NPDCKIKQKHGVDYGYCYAF--QCWCEFLKDE 54
      | | | | | | | | | | | | | | | | | |
Db      18 NEGCDKECKAYGSGYGYCWTWGLACWCEGLPDD 50
      | | | | | | | | | | | | | | | | | |

RESULT 15
US-08-472-053-46
; Sequence 46, Application US/08472053
; Patent No. 6689356
; GENERAL INFORMATION:
; APPLICANT: ZLOTKIN, ELIAHU
; APPLICANT: MAEDA, SUSUMU
; APPLICANT: MCCUTCHEN, BILLY F.
; APPLICANT: HAMMOCK, BRUCE D.
; APPLICANT: FOWLER, ELIZABETH
; APPLICANT: BELAGAJE, RAMA M.
; TITLE OF INVENTION: RECOMBINANT BACULOVIRUSES PRODUCING
; FILE REFERENCE: UC058.1FWCP2
; CURRENT APPLICATION NUMBER: US/08/472,053
; CURRENT FILING DATE: 2002-11-13
; PRIOR APPLICATION NUMBER: 08/229417
; PRIOR FILING DATE: 1994-04-15
; PRIOR APPLICATION NUMBER: 07/629603
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; PRIOR FILING DATE: 1990-12-19
; PRIOR APPLICATION NUMBER: 07/286087
; PRIOR FILING DATE: 1988-12-19
; NUMBER OF SEQ ID NOS: 49
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 46
; LENGTH: 62
; TYPE: PRT
; ORGANISM: Leiurus quinquestriatus hebraeus
US-08-472-053-46

Query Match          25.7%; Score 88; DB 4; Length 62;
Best Local Similarity 45.5%; Pred. No. 0.0015;
Matches 15; Conservative 5; Mismatches 11; Indels 2; Gaps 1;

QY      24 NPDCKIKQKHGVDYGYCYAF--QCWCEFLKDE 54
      | | | | | | | | | | | | | | | | | |
Db      19 NEGCDKECKAYGSGYGYCWTWGLACWCEGLPDD 51
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Search completed: July 8, 2005, 15:35:08
Job time : 42 secs
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GenCore version 5.1.6
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OM protein - protein search, using sw model

Run on: July 8, 2005, 15:33:13 ; Search time 163 Seconds
(without alignments)
137.467 Million cell updates/sec

Title: US-10-617-978-20

Perfect score: 343

Sequence: 1 ADVPGNYPLDSSDNTYLCAPIGNDPDCIKICQKGVGVGYCYAFQWC-EFLKDSN 58

Scoring table: BLOSUM62

Gapop 10.0 , Gapext 0.5

Searched: 1726216 seqs, 386330316 residues

Total number of hits satisfying chosen parameters: 1726216

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database : Published Applications AA:*

- 1: /cgn2_6/ptodata/2/pubpaa/US07_PUBCOMB.pep:*
- 2: /cgn2_6/ptodata/2/pubpaa/PCT_NEW_PUB.pep:*
- 3: /cgn2_6/ptodata/2/pubpaa/US05_NEW_PUB.pep:*
- 4: /cgn2_6/ptodata/2/pubpaa/US06_PUBCOMB.pep:*
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- 6: /cgn2_6/ptodata/2/pubpaa/PCTUS_PUBCOMB.pep:*
- 7: /cgn2_6/ptodata/2/pubpaa/US08_NEW_PUB.pep:*
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- 11: /cgn2_6/ptodata/2/pubpaa/US09C_PUBCOMB.pep:*
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- 18: /cgn2_6/ptodata/2/pubpaa/US10F_PUBCOMB.pep:*
- 19: /cgn2_6/ptodata/2/pubpaa/US11A_PUBCOMB.pep:*
- 20: /cgn2_6/ptodata/2/pubpaa/US11_NEW_PUB.pep:*
- 21: /cgn2_6/ptodata/2/pubpaa/US60_NEW_PUB.pep:*
- 22: /cgn2_6/ptodata/2/pubpaa/US60_PUBCOMB.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
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2	226.5	66.0	58	14	US-10-264-480-4
3	224	65.3	58	14	US-10-264-480-2
4	221	64.4	58	14	US-10-264-480-1
5	119.5	34.8	65	14	US-10-264-480-16
6	119	34.7	64	17	US-10-721-793-108
7	119	34.7	87	17	US-10-721-793-106
8	118	34.4	66	17	US-10-721-793-156
9	118	34.4	87	17	US-10-721-793-154
10	117	34.1	65	17	US-10-721-793-148
11	117	34.1	66	17	US-10-721-793-160

12	117	34.1	66	17	US-10-721-793-164	Sequence 164, Appl
13	117	34.1	66	17	US-10-721-793-176	Sequence 176, Appl
14	117	34.1	87	17	US-10-721-793-146	Sequence 146, Appl
15	117	34.1	87	17	US-10-721-793-158	Sequence 158, Appl
16	117	34.1	87	17	US-10-721-793-162	Sequence 162, Appl
17	117	34.1	87	17	US-10-721-793-174	Sequence 174, Appl
18	116	33.8	64	17	US-10-721-793-104	Sequence 104, Appl
19	116	33.8	87	17	US-10-721-793-102	Sequence 102, Appl
20	115.5	33.7	65	17	US-10-721-793-172	Sequence 172, Appl
21	115.5	33.7	87	17	US-10-721-793-170	Sequence 170, Appl
22	115	33.5	63	17	US-10-721-793-80	Sequence 80, Appl
23	115	33.5	73	17	US-10-721-793-14	Sequence 14, Appl
24	115	33.5	73	17	US-10-721-793-16	Sequence 16, Appl
25	115	33.5	85	17	US-10-721-793-78	Sequence 78, Appl
26	113.5	33.1	65	14	US-10-264-480-14	Sequence 14, Appl
27	113	32.9	63	17	US-10-721-793-40	Sequence 40, Appl
28	113	32.9	63	17	US-10-721-793-52	Sequence 52, Appl
29	113	32.9	66	17	US-10-721-793-50	Sequence 50, Appl
30	113	32.9	66	17	US-10-721-793-68	Sequence 68, Appl
31	113	32.9	67	17	US-10-721-793-38	Sequence 38, Appl
32	113	32.9	87	17	US-10-721-793-66	Sequence 66, Appl
33	111	32.4	64	17	US-10-721-793-116	Sequence 116, Appl
34	111	32.4	64	17	US-10-721-793-120	Sequence 120, Appl
35	111	32.4	87	14	US-10-264-480-12	Sequence 12, Appl
36	111	32.4	87	17	US-10-721-793-114	Sequence 114, Appl
37	111	32.4	87	17	US-10-721-793-118	Sequence 118, Appl
38	110	32.1	63	17	US-10-721-793-112	Sequence 112, Appl
39	110	32.1	66	14	US-10-264-480-17	Sequence 17, Appl
40	110	32.1	66	17	US-10-721-793-192	Sequence 192, Appl
41	110	32.1	84	17	US-10-721-793-110	Sequence 110, Appl
42	110	32.1	87	17	US-10-721-793-190	Sequence 190, Appl
43	109	31.8	66	14	US-10-264-480-11	Sequence 11, Appl
44	109	31.8	87	14	US-10-264-480-10	Sequence 10, Appl
45	108	31.5	66	17	US-10-721-793-88	Sequence 88, Appl

ALIGNMENTS

RESULT 1
US-10-264-480-3
; Sequence 3, Application US/10264480
; Publication No. US20030113892A1
; GENERAL INFORMATION:
; APPLICANT: Hammock, Bruce D.
; APPLICANT: Inceoglu, Bora
; TITLE OF INVENTION: ISOLATED POLYPEPTIDES AND COMPOSITIONS
; FILE REFERENCE: UCAL256
; CURRENT APPLICATION NUMBER: US/10/264,480
; CURRENT FILING DATE: 2002-10-04
; PRIOR APPLICATION NUMBER: 60/393,070
; PRIOR FILING DATE: 2002-06-28
; PRIOR APPLICATION NUMBER: 60/327,602
; PRIOR FILING DATE: 2001-10-04
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 3
; LENGTH: 58
; TYPE: PRT
; ORGANISM: Parabuthus transvaalicus
US-10-264-480-3

Query Match 66.6%; Score 228.5; DB 14; Length 58;
Best Local Similarity 66.1%; Pred. No. 8.5e-20;
Matches 37; Conservative 7; Mismatches 11; Indels 1; Gaps 1;
QY 1 ADVPGNYPLDSSDNTYLCAPIGNDPDCIKICQKGVGVGYCYAFQWC-EFLKDSN 55
Db 1 ADVPGNYPLDSSDNTYLCAPIGNDPDCIKICQKGVGVGYCYAFQWC-EFLKDSN 56
RESULT 2

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; TITLE OF INVENTION: FROM THE VENOM OF P. TRANSVAALICUS AND METHODS OF USE
; FILE REFERENCE: UCAL256
; CURRENT APPLICATION NUMBER: US/10/264,480
; CURRENT FILING DATE: 2002-10-04
; PRIOR APPLICATION NUMBER: 60/393,070
; PRIOR FILING DATE: 2002-06-28
; PRIOR APPLICATION NUMBER: 60/327,602
; PRIOR FILING DATE: 2001-10-04
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 1
; LENGTH: 58
; TYPE: PRF
; ORGANISM: Parabuthus transvaalicus
US-10-264-480-1

Query Match      64.4%; Score 221; DB 14; Length 58;
Best Local Similarity 63.0%; Pred. No. 6.7e-19;
Matches 34; Conservative 8; Mismatches 12; Indels 0; Gaps 0
Oy 1 ADVPGNYPLDSSNTYLCAPLGNPDCIKIQKHGVDYGYCYAFQWCCEFLKDE 54
Db 1 ADVPGNYPLDKDGTNYKCFLLGGNECLNVCKLHGQVGYCYASKWCEYLEDD 54

RESULT 5
US-10-264-480-16
; Sequence 16, Application US/10264480
; Publication No. US20030113892A1
; GENERAL INFORMATION:
; APPLICANT: Hammock, Bruce D.
; APPLICANT: Inceoglu, Bora
; TITLE OF INVENTION: ISOLATED POLYPEPTIDES AND COMPOSITIONS
; TITLE OF INVENTION: FROM THE VENOM OF P. TRANSVAALICUS AND METHODS OF USE
; FILE REFERENCE: UCAL256
; CURRENT APPLICATION NUMBER: US/10/264,480
; CURRENT FILING DATE: 2002-10-04
; PRIOR APPLICATION NUMBER: 60/393,070
; PRIOR FILING DATE: 2002-06-28
; PRIOR APPLICATION NUMBER: 60/327,602
; PRIOR FILING DATE: 2001-10-04
; NUMBER OF SEQ ID NOS: 30
; SOFTWARE: FastSeq for Windows Version 4.0
; SEQ ID NO 16
; LENGTH: 65
; TYPE: PRF
; ORGANISM: Centruroides noxius
US-10-264-480-16

Query Match      34.8%; Score 119.5; DB 14; Length 65;
Best Local Similarity 50.0%; Pred. No. 1.1e-06;
Matches 21; Conservative 6; Mismatches 14; Indels 1; Gaps 1
Oy 16 YLCAPLGDNDPCIKIC-QKHGVDYGYCYAFQWCCEFLKDENV 56
Db 14 YECLKLGDNDYCLRECRQQYGKSGGYCYAFACWCTHLYEQAV 55

RESULT 6
US-10-721-793-108
; Sequence 108, Application US/10721793
; Publication No. US2005006531A1
; GENERAL INFORMATION:
; APPLICANT: Corona Villegas, Miguel
; APPLICANT: Garcia Rodriguez, Ma Consuelo
; APPLICANT: Valdez Cruz, Norma Adriana
; APPLICANT: Gurrola Briones, Georgina
; APPLICANT: Becerril Lujan, Baltazar
; APPLICANT: Possani Postay, Lourival Domingos
; TITLE OF INVENTION: Recombinant Immunogens for the Generation of Antivenoms
; TITLE OF INVENTION: Venom of Scorpions of the Genus Centruroides
; FILE REFERENCE: 2099.007001
; CURRENT APPLICATION NUMBER: US/10/721,793
```

; CURRENT FILING DATE: 2003-11-26
; PRIOR APPLICATION NUMBER: US 60/430,067
; PRIOR FILING DATE: 2002-12-02
; NUMBER OF SEQ ID NOS: 294
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 108
; LENGTH: 64
; TYPE: PRT
; ORGANISM: Centruroides elegans
US-10-721-793-108

Query Match 34.7%; Score 119; DB 17; Length 64;
Best Local Similarity 52.5%; Pred. No. 1.3e-06;
Matches 21; Conservative 3; Mismatches 14; Indels 2; Gaps 1;

QY 16 YLCAPLGNDPDCIKIC--QKHGVDYGYCYAFQWCBEFLKD 53
DB 13 YSCGKLGNEHCDCKEAKNQGSGYCYAFQWCBEGLPE 52

RESULT 7

US-10-721-793-106
; Sequence 106, Application US/10721793
; Publication No. US20050065331A1
; GENERAL INFORMATION:
; APPLICANT: Corona Villegas, Miguel
; APPLICANT: Garcia Rodriguez, Ma Consuelo
; APPLICANT: Valdez Cruz, Norma Adriana
; APPLICANT: Gurrola Briones, Georgina
; APPLICANT: Becerril Lujan, Baltazar
; APPLICANT: Possani Postay, Lourival Domingos
; TITLE OF INVENTION: Recombinant Immunogens for the Generation of Antivenoms to the
; FILE REFERENCE: 2099.0070001
; CURRENT APPLICATION NUMBER: US/10/721,793
; PRIOR FILING DATE: 2003-11-26
; PRIOR APPLICATION NUMBER: US 60/430,067
; PRIOR FILING DATE: 2002-12-02
; NUMBER OF SEQ ID NOS: 294
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 106
; LENGTH: 87
; TYPE: PRT
; ORGANISM: Centruroides elegans
US-10-721-793-106

Query Match 34.7%; Score 119; DB 17; Length 87;
Best Local Similarity 52.5%; Pred. No. 1.7e-06;
Matches 21; Conservative 3; Mismatches 14; Indels 2; Gaps 1;

QY 16 YLCAPLGNDPDCIKIC--QKHGVDYGYCYAFQWCBEFLKD 53
DB 33 YSCGKLGNEHCDCKEAKNQGSGYCYAFQWCBEGLPE 72

RESULT 8

US-10-721-793-156
; Sequence 156, Application US/10721793
; Publication No. US20050065331A1
; GENERAL INFORMATION:
; APPLICANT: Corona Villegas, Miguel
; APPLICANT: Garcia Rodriguez, Ma Consuelo
; APPLICANT: Valdez Cruz, Norma Adriana
; APPLICANT: Gurrola Briones, Georgina
; APPLICANT: Becerril Lujan, Baltazar
; APPLICANT: Possani Postay, Lourival Domingos
; TITLE OF INVENTION: Recombinant Immunogens for the Generation of Antivenoms to the
; FILE REFERENCE: 2099.0070001
; CURRENT APPLICATION NUMBER: US/10/721,793
; PRIOR FILING DATE: 2003-11-26
; PRIOR APPLICATION NUMBER: US 60/430,067
; PRIOR FILING DATE: 2002-12-02

; NUMBER OF SEQ ID NOS: 294
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 156
; LENGTH: 66
; TYPE: PRT
; ORGANISM: Centruroides sculpturatus
US-10-721-793-156

Query Match 34.4%; Score 118; DB 17; Length 66;
Best Local Similarity 52.5%; Pred. No. 1.7e-06;
Matches 21; Conservative 3; Mismatches 14; Indels 2; Gaps 1;

QY 16 YLCAPLGNDPDCIKIC--QKHGVDYGYCYAFQWCBEFLKD 53
DB 14 YGCLKLGNEGCDCKEAKENQSGSYGYCYAFQWCBEGLPE 53

RESULT 9

US-10-721-793-154
; Sequence 154, Application US/10721793
; Publication No. US20050065331A1
; GENERAL INFORMATION:
; APPLICANT: Corona Villegas, Miguel
; APPLICANT: Garcia Rodriguez, Ma Consuelo
; APPLICANT: Valdez Cruz, Norma Adriana
; APPLICANT: Gurrola Briones, Georgina
; APPLICANT: Becerril Lujan, Baltazar
; APPLICANT: Possani Postay, Lourival Domingos
; TITLE OF INVENTION: Recombinant Immunogens for the Generation of Antivenoms to the
; FILE REFERENCE: 2099.0070001
; CURRENT APPLICATION NUMBER: US/10/721,793
; CURRENT FILING DATE: 2003-11-26
; PRIOR APPLICATION NUMBER: US 60/430,067
; PRIOR FILING DATE: 2002-12-02
; NUMBER OF SEQ ID NOS: 294
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 154
; LENGTH: 87
; TYPE: PRT
; ORGANISM: Centruroides sculpturatus
US-10-721-793-154

Query Match 34.4%; Score 118; DB 17; Length 87;
Best Local Similarity 52.5%; Pred. No. 2.3e-06;
Matches 21; Conservative 3; Mismatches 14; Indels 2; Gaps 1;

QY 16 YLCAPLGNDPDCIKIC--QKHGVDYGYCYAFQWCBEFLKD 53
DB 33 YGCLKLGNEGCDCKEAKENQSGSYGYCYAFQWCBEGLPE 72

RESULT 10

US-10-721-793-148
; Sequence 148, Application US/10721793
; Publication No. US20050065331A1
; GENERAL INFORMATION:
; APPLICANT: Corona Villegas, Miguel
; APPLICANT: Garcia Rodriguez, Ma Consuelo
; APPLICANT: Valdez Cruz, Norma Adriana
; APPLICANT: Gurrola Briones, Georgina
; APPLICANT: Becerril Lujan, Baltazar
; APPLICANT: Possani Postay, Lourival Domingos
; TITLE OF INVENTION: Recombinant Immunogens for the Generation of Antivenoms to the
; FILE REFERENCE: 2099.0070001
; CURRENT APPLICATION NUMBER: US/10/721,793
; CURRENT FILING DATE: 2003-11-26
; PRIOR APPLICATION NUMBER: US 60/430,067
; PRIOR FILING DATE: 2002-12-02
; NUMBER OF SEQ ID NOS: 294
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 148

```
; LENGTH: 65
; TYPE: PRT
; ORGANISM: Centruroides sculpturatus
US-10-721-793-148

Query Match          34.1%; Score 117; DB 17; Length 65;
Best Local Similarity 52.5%; Pred. No. 2.2e-06;
Matches 21; Conservative 3; Mismatches 14; Indels 2; Gaps 1;

QY 16 YLCAPLGNDPDCIKIC--QKHGVDYGYCYAFQWCCEFLKD 53
   |||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 14 YGCLKLGENEGCDKECKAKNQGGSGYCYAFACWCEGLPE 53

RESULT 11
US-10-721-793-160
; Sequence 160, Application US/10721793
; Publication No. US20050065331A1
; GENERAL INFORMATION:
; APPLICANT: Corona Villegas, Miguel
; APPLICANT: Garcia Rodriguez, Ma Consuelo
; APPLICANT: Valdez Cruz, Norma Adriana
; APPLICANT: Gurrula Briones, Georgina
; APPLICANT: Becerril Lujan, Baltazar
; APPLICANT: Possani Postay, Lourival Domingos
; TITLE OF INVENTION: Recombinant Immunogens for the Generation of Antivenoms to the
; TITLE OF INVENTION: Venom of Scorpions of the Genus Centruroides
; FILE REFERENCE: 2099.0070001
; CURRENT APPLICATION NUMBER: US/10/721,793
; PRIOR FILING DATE: 2003-11-26
; PRIOR APPLICATION NUMBER: US 60/430,067
; PRIOR FILING DATE: 2002-12-02
; NUMBER OF SEQ ID NOS: 294
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 160
; LENGTH: 66
; TYPE: PRT
; ORGANISM: Centruroides sculpturatus
US-10-721-793-160

Query Match          34.1%; Score 117; DB 17; Length 66;
Best Local Similarity 52.5%; Pred. No. 2.3e-06;
Matches 21; Conservative 3; Mismatches 14; Indels 2; Gaps 1;

QY 16 YLCAPLGNDPDCIKIC--QKHGVDYGYCYAFQWCCEFLKD 53
   |||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 14 YGCLKLGENEGCDKECKAKNQGGSGYCYAFACWCEGLPE 53

RESULT 12
US-10-721-793-164
; Sequence 164, Application US/10721793
; Publication No. US20050065331A1
; GENERAL INFORMATION:
; APPLICANT: Corona Villegas, Miguel
; APPLICANT: Garcia Rodriguez, Ma Consuelo
; APPLICANT: Valdez Cruz, Norma Adriana
; APPLICANT: Gurrula Briones, Georgina
; APPLICANT: Becerril Lujan, Baltazar
; APPLICANT: Possani Postay, Lourival Domingos
; TITLE OF INVENTION: Recombinant Immunogens for the Generation of Antivenoms to the
; TITLE OF INVENTION: Venom of Scorpions of the Genus Centruroides
; FILE REFERENCE: 2099.0070001
; CURRENT APPLICATION NUMBER: US/10/721,793
; PRIOR FILING DATE: 2003-11-26
; PRIOR APPLICATION NUMBER: US 60/430,067
; PRIOR FILING DATE: 2002-12-02
; NUMBER OF SEQ ID NOS: 294
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 164
; LENGTH: 66
; TYPE: PRT
; ORGANISM: Centruroides sculpturatus
US-10-721-793-164

Query Match          34.1%; Score 117; DB 17; Length 65;
Best Local Similarity 52.5%; Pred. No. 2.2e-06;
Matches 21; Conservative 3; Mismatches 14; Indels 2; Gaps 1;

QY 16 YLCAPLGNDPDCIKIC--QKHGVDYGYCYAFQWCCEFLKD 53
   |||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 14 YGCLKLGENEGCDKECKAKNQGGSGYCYAFACWCEGLPE 53

RESULT 13
US-10-721-793-176
; Sequence 176, Application US/10721793
; Publication No. US20050065331A1
; GENERAL INFORMATION:
; APPLICANT: Corona Villegas, Miguel
; APPLICANT: Garcia Rodriguez, Ma Consuelo
; APPLICANT: Valdez Cruz, Norma Adriana
; APPLICANT: Gurrula Briones, Georgina
; APPLICANT: Becerril Lujan, Baltazar
; APPLICANT: Possani Postay, Lourival Domingos
; TITLE OF INVENTION: Recombinant Immunogens for the Generation of Antivenoms to the
; TITLE OF INVENTION: Venom of Scorpions of the Genus Centruroides
; FILE REFERENCE: 2099.0070001
; CURRENT APPLICATION NUMBER: US/10/721,793
; PRIOR FILING DATE: 2003-11-26
; PRIOR APPLICATION NUMBER: US 60/430,067
; PRIOR FILING DATE: 2002-12-02
; NUMBER OF SEQ ID NOS: 294
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 176
; LENGTH: 66
; TYPE: PRT
; ORGANISM: Centruroides sculpturatus
US-10-721-793-176

Query Match          34.1%; Score 117; DB 17; Length 66;
Best Local Similarity 52.5%; Pred. No. 2.3e-06;
Matches 21; Conservative 3; Mismatches 14; Indels 2; Gaps 1;

QY 16 YLCAPLGNDPDCIKIC--QKHGVDYGYCYAFQWCCEFLKD 53
   |||:|||||:|||||:|||||:|||||:|||||:|||||:
Db 14 YGCLKLGENEGCDKECKAKNQGGSGYCYAFACWCEGLPE 53

RESULT 14
US-10-721-793-146
; Sequence 146, Application US/10721793
; Publication No. US20050065331A1
; GENERAL INFORMATION:
; APPLICANT: Corona Villegas, Miguel
; APPLICANT: Garcia Rodriguez, Ma Consuelo
; APPLICANT: Valdez Cruz, Norma Adriana
; APPLICANT: Gurrula Briones, Georgina
; APPLICANT: Becerril Lujan, Baltazar
; APPLICANT: Possani Postay, Lourival Domingos
; TITLE OF INVENTION: Recombinant Immunogens for the Generation of Antivenoms to the
; TITLE OF INVENTION: Venom of Scorpions of the Genus Centruroides
; FILE REFERENCE: 2099.0070001
; CURRENT APPLICATION NUMBER: US/10/721,793
; PRIOR FILING DATE: 2003-11-26
; PRIOR APPLICATION NUMBER: US 60/430,067
; PRIOR FILING DATE: 2002-12-02
; NUMBER OF SEQ ID NOS: 294
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 146
; LENGTH: 87
; TYPE: PRT
; ORGANISM: Centruroides sculpturatus
US-10-721-793-146

Query Match          34.1%; Score 117; DB 17; Length 87;
```

Best Local Similarity 52.5%; Pred. No. 3e-06;
 Matches 21; Conservative 3; Mismatches 14; Indels 2; Gaps 1;

QY 16 YLCAPLGNDPDCIKIC--QKHGVDYGYCYAFQWCCEFLKD 53
 DB 33 YGCLKLGEGNCDKECKAKNQGGSGYCYAFACWCEGLPE 72

RESULT 15
 US-10-721-793-158
 ; Sequence 158, Application US/10721793
 ; Publication No. US20050065331A1
 ; GENERAL INFORMATION:
 ; APPLICANT: Corona Villegas, Miguel
 ; APPLICANT: Garcia Rodriguez, Ma Consuelo
 ; APPLICANT: Valdez Cruz, Norma Adriana
 ; APPLICANT: Gurroila Briones, Georgina
 ; APPLICANT: Becerril Lujan, Baltazar
 ; APPLICANT: Possani Postay, Lourival Domingos
 ; TITLE OF INVENTION: Recombinant Immunogens for the Generation of Antivenoms to the
 ; TITLE OF INVENTION: Venom of Scorpions of the Genus Centruroides
 ; FILE REFERENCE: 2099.0070001
 ; CURRENT APPLICATION NUMBER: US/10/721,793
 ; CURRENT FILING DATE: 2003-11-26
 ; PRIOR APPLICATION NUMBER: US 60/430,067
 ; PRIOR FILING DATE: 2002-12-02
 ; NUMBER OF SEQ ID NOS: 294
 ; SOFTWARE: PatentIn version 3.1
 ; SEQ ID NO 158
 ; LENGTH: 87
 ; TYPE: PRT
 ; ORGANISM: Centruroides sculpturatus
 US-10-721-793-158

Query Match 34.1%; Score 117; DB 17; Length 87;
 Best Local Similarity 52.5%; Pred. No. 3e-06;
 Matches 21; Conservative 3; Mismatches 14; Indels 2; Gaps 1;

QY 16 YLCAPLGNDPDCIKIC--QKHGVDYGYCYAFQWCCEFLKD 53
 DB 33 YGCLKLGEGNCDKECKAKNQGGSGYCYAFACWCEGLPE 72

Search completed: July 8, 2005, 15:46:13
 Job time : 164 secs

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